WHAT IS CLAIMED IS:

1. A projection apparatus for projecting a multicolor image, the apparatus comprising:

(a) a light source for providing visible light;

(b) a dichroic separator for splitting the visible light into color light beams;

(c) illumination optics to direct each of said color light beams into a corresponding light modulation assemblies;

(d) wherein each of said light modulation assemblies are similarly constructed and comprise:

(i) a pre-polarizer for pre-polarizing a color light beam;

(ii) a polarization beamsplitter for transmitting a color light beam having a first polarization and reflecting light having a second polarization, thereby providing a polarized beam of light;

(iii) a reflective spatial light modulator which receives said polarized beam of light having either a first polarization or a second polarization, and which selectively modulates said polarized beam of light to encode data thereon, providing both modulated light and unmodulated light which differ in polarization; wherein said reflective spatial light modulator reflects back both said modulated light and said unmodulated light to said polarization beamsplitter; and

(iv) a polarization analyzer which receives said modulated light, and which further removes any residual unmodulated light from said modulated light;

(v) a magnifying relay lens for focusing and relaying said modulated light to form a magnified real image of said reflective spatial light modulator;

(e) a dichroic combiner which forms a multicolor image by overlapping said magnified real images from each of said color light beams onto a common optical axis;

(f) a projection lens for projecting said multicolor image toward a display surface; and

(g) wherein each of said polarization analyzers are tilted relative to a local optical axis and are located in proximity to at least one of said magnified real images of the color light beams.

2. A projection apparatus according to claim 1 wherein said polarization beamsplitter is a wire grid polarizer.

3. A projection apparatus according to claim 1 wherein said polarization analyzer is a wire grid polarizer.

4. A projection apparatus according to claim 3 wherein said wire grid polarization analyzer is tilted at a fixed angle between 5 to 25 degrees relative to a local optical axis.

5. A projection apparatus according to claim 3 wherein said wire grid polarization analyzer is located in a telecentric optical space in general proximity to the image created by said magnifying relay lens.

6. A projection apparatus according to claim 4 wherein tilting of said wire grid polarization contributes to a high in-frame contrast.

7. A projection apparatus according to claim 1 wherein said magnifying relay lenses comprise lens elements that are coated with color optimized anti-reflection coatings.

8. A projection apparatus according to claim 1 wherein said magnifying relay lenses operate at a magnification of 2x.

9. A projection apparatus according to claim 1 wherein said dichroic combiner is either a v-prism or a x-prism.

10. A projection apparatus according to claim 9 wherein input faces of said dichroic combiner are coated with color optimized anti-reflection coatings for each of said color light beams.

11. A projection apparatus according to claim 1 that further comprises waveplates which are optically mounted to input faces of said dichroic combiner.

12. A projection apparatus according to claim 1 wherein each of said reflective spatial light modulators is a liquid crystal device.

13. A projection apparatus for projecting an image comprising:

(a) a light source for providing visible light;

(b) illumination optics to direct a light beam into a light modulation assembly;

(c) wherein said light modulation assembly comprises;

(i) a pre-polarizer for pre-polarizing a light beam;

(ii) a polarization beamsplitter for transmitting a light beam having a first polarization and reflecting light having a second polarization;

(iii) a reflective spatial light modulator which receives a polarized beam of light having either a first polarization or a second polarization, and which selectively modulates said polarized beam of light to encode data thereon, providing both modulated light and unmodulated light which differ in polarization;

wherein said reflective spatial light modulator reflects back both said modulated light and said unmodulated light to said wire grid polarization beamsplitter; and

(iv) a polarization analyzer which receives said modulated light, and which further removes any residual unmodulated light from said modulated light; and

(d) a magnifying relay lens that focuses and relays said modulated light to form a magnified real image of said reflective spatial light modulator;

(e) a projection lens for projecting said magnified real image onto a display surface; and

(f) wherein said polarization analyzer is tilted relative to a local optical axis and is located in proximity to said magnified real image.

14. A projection apparatus for projecting a multicolor image comprising:

(a) a light source for providing visible light;

(b) a dichroic separator for splitting said visible light into first, second, and third color light beams;

(c) illumination optics to direct each of said color light beams into corresponding first, second, and third light modulation assemblies;

(d) wherein each of said light modulation assemblies are similarly constructed and comprise:

(i) a pre-polarizer for pre-polarizing a color light beam;

(ii) a polarization beamsplitter for transmitting a color light beam having a first polarization and reflecting light having a second polarization, thereby providing a polarized beam of light;

(iii) a reflective spatial light modulator which receives said polarized beam of light and selectively modulates said polarized beam of light to encode data thereon,

providing both modulated light and unmodulated light which differ in polarization;

(iv) a magnifying relay lens for focusing and relaying said modulated light to form a magnified real image of said reflective spatial light modulator; and

(v) a polarization analyzer which receives said modulated and unmodulated light, and which removes any residual unmodulated light from said modulated light;

(e) a dichroic combiner which forms a multicolor image by overlapping said magnified real images from each of said color light beams onto a common optical axis;

(f) a projection lens for projecting said multicolor image toward a display surface; and

(g) wherein each of said polarization analyzers are tilted relative to a local optical axis and are located in proximity to at least one of said magnified real images of the color light beams.

15. A projection apparatus for projecting a multicolor image comprising:

(a) a light source for providing visible light;

(b) a dichroic separator for splitting said visible light into first, second, and third color light beams;

(c) illumination optics to direct each of said color light beams into corresponding first, second, and third light modulation assemblies;

(d) wherein each of said light modulation assemblies are similarly constructed and comprise:

(i) a pre-polarizer for pre-polarizing one of said color light beams thereby providing a polarized beam of light;

(ii) a transmissive spatial light modulator which receives said polarized beam of light and selectively modulates said polarized beam of light to encode data

thereon, providing both modulated light and unmodulated light which differs in polarization;

(iii) a magnifying relay lens for focusing and relaying said modulated light to form a magnified real image of said reflective spatial light modulator; and

(iv) a polarization analyzer which receives said modulated and unmodulated light, and which removes unmodulated light from said modulated light;

(e) a dichroic combiner which forms a multicolor image by overlapping said magnified real images from each of said color light beams onto a common optical axis;

(f) a projection lens for projecting said multicolor image toward a display surface; and

(g) wherein each of said polarization analyzers are tilted relative to a local optical axis and are located in proximity to at least one of said magnified real images of the color light beams.